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Docket Number 50-346

10CFR50.90

License Number NPF-3

Serial Number 2949

May 21, 2003

United States Nuclear Regulatory Commission
Document Control Desk
Washington, DC 20555-0001

Subject: Davis-Besse Nuclear Power Station
License Amendment Application to Revise Technical Specification (TS) 3/4.5.2, "ECCS Subsystems - $T_{avg} \geq 280°$ F," to Relocate the Requirements of Technical Specification Surveillance Requirement 4.5.2.h (License Amendment Request No. 03-0002)

Ladies and Gentlemen:

Pursuant to 10 CFR 50.90, the following amendment is requested for the Davis-Besse Nuclear Power Station, Unit 1 (DBNPS). The proposed amendment would revise Technical Specification (TS) 3/4.5.2, "ECCS Subsystems - $T_{avg} \geq 280°$ F," to relocate the requirements of Surveillance Requirement (SR) 4.5.2.h to the Technical Requirements Manual (TRM) and add a SR to verify Emergency Core Cooling System (ECCS) pump operability pursuant to TS 4.0.5. SR 4.5.2.h requires flow balance testing of the High Pressure Injection (HPI) and Low Pressure Injection (LPI) subsystems at specific pressures and flow rates following system modifications that alter subsystem flow characteristics. The DBNPS TRM is a licensee-controlled document which is incorporated by reference into the DBNPS Updated Safety Analysis Report. Changes to the DBNPS TRM are performed in accordance with 10 CFR 50.59.

The content of the proposed new SR 4.5.2.h does not verify the same functions as the existing SR 4.5.2.h requirements. The new SR will require verifying each ECCS pump's developed head is greater than or equal to the required developed head, when tested pursuant to TS 4.0.5 with regards to inservice testing requirements of the American Society of Mechanical Engineers Code for Operation and Maintenance of Nuclear Power Plants.

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Enclosure 1 to this letter contains the technical justification for the proposed changes and the proposed no significant hazards consideration determination.

In accordance with SR 4.5.2.h requirements, a flow balance test is required to be performed, during shutdown, prior to entry into Mode 3 if modifications are performed on the HPI or LPI subsystems that alter the subsystem flow characteristics. However, performing this test prior to entry into Mode 3 is not consistent with low temperature overpressure protection requirements for the Reactor Coolant System (RCS), such as those applicable in Modes 4 and 5 under the TS Limiting Condition for Operation 3.4.2. Accordingly, performing SR 4.5.2.h at the required 400 psig for the HPI subsystem is not appropriate. An engineering review of modification activities has determined that since SR 4.5.2.h requirements were added to the DBNPS Operating License, no modifications to the HPI subsystem have been made that alter the subsystem flow characteristics. Therefore, flow balance testing in accordance with SR 4.5.2.h has not been invoked for the HPI subsystem.

The improved Technical Specifications, NUREG-1430, *Standard Technical Specifications - Babcock and Wilcox Plants*, Revision 2, does not contain a flow balance test SR. Accordingly, based on the guidance of NUREG-1430, these requirements can be relocated to the TRM, whereby the application of a lower test pressure can be evaluated pursuant to 10 CFR 50.59. The new SR 4.5.2.h content is being added for consistency with NUREG-1430 and is not related to the existing SR 4.5.2.h content.

Approval of this amendment is requested by July 3, 2003, to support planned HPI subsystem testing. Once approved, the amendment shall be implemented within seven days.

The proposed changes have been reviewed by the DBNPS onsite review committee and the DBNPS offsite nuclear review committee.

Should you have any questions or require additional information, please contact Mr. Patrick J. McCloskey, Manager - Regulatory Affairs, at (419) 321-8450.

Very truly yours,

MAR

Enclosures

cc: J. E. Dyer, Regional Administrator, NRC Region III
J. B. Hopkins, NRC/NRR Senior Project Manager
D. J. Shipley, Executive Director, Ohio Emergency Management Agency, State of Ohio (NRC Liaison)
C. S. Thomas, NRC Region III, DB-1 Senior Resident Inspector
Utility Radiological Safety Board

APPLICATION FOR AMENDMENT

TO FACILITY OPERATING LICENSE NPF-3

DAVIS-BESSE NUCLEAR POWER STATION

UNIT NUMBER 1

Attached is License Amendment Request 03-0002 that requests changes to the Davis-Besse Nuclear Power Station Unit Number 1, Facility Operating License Number NPF-3.

I declare under penalty of perjury that I am authorized by the FirstEnergy Nuclear Operating Company to make this request and the foregoing is true and correct.

Executed on: 5/21/03

By: Lew W Myers
Lew W. Myers, Chief Operating Officer

Docket Number 50-346
License Number NPF-3
Serial Number 2949
Enclosure 1

DAVIS-BESSE NUCLEAR POWER STATION
EVALUATION
FOR
LICENSE AMENDMENT REQUEST NUMBER 03-0002

(23 pages follow)

DAVIS-BESSE NUCLEAR POWER STATION
EVALUATION
FOR
LICENSE AMENDMENT REQUEST NUMBER 03-0002

Subject: License Amendment Application to Revise Technical Specification (TS) 3/4.5.2, "ECCS Subsystems - $T_{avg} \geq 280°$ F," to Relocate Technical Specification Surveillance Requirement 4.5.2.h to the Technical Requirements Manual

1.0 DESCRIPTION

This is a request to amend the Davis-Besse Nuclear Power Station, Unit Number 1 (DBNPS) Facility Operating License Number NPF-3.

The proposed changes would revise the Operating License Technical Specification (TS) 3/4.5.2, "ECCS Subsystems - $T_{avg} \geq 280°$ F," by relocating TS Surveillance Requirement (SR) 4.5.2.h to the Technical Requirements Manual (TRM) and adding a SR to verify Emergency Core Cooling System (ECCS) pump operability pursuant to TS 4.0.5. SR 4.5.2.h requires flow balance testing of the High Pressure Injection and Low Pressure Injection subsystems following system modifications that alter subsystem flow characteristics. The DBNPS TRM is a licensee-controlled document which is incorporated by reference into the DBNPS Updated Safety Analysis Report. Changes to the DBNPS TRM are performed in accordance with 10 CFR 50.59. The content of the proposed new SR 4.5.2.h does not verify the same functions as the existing SR 4.5.2.h requirements. The new SR 4.5.2.h is being added for consistency with the NUREG-1430, *Standard Technical Specifications - Babcock and Wilcox Plants*, and is not related to the relocation of existing SR 4.5.2.h content.

These proposed changes are based upon the improved Standard Technical Specifications (ITS), NUREG-1430, *Standard Technical Specifications - Babcock and Wilcox Plants*, Revision 2. NUREG-1430 is based on the NRC's "Final Policy Statement on Technical Specification Improvements for Nuclear Power Reactors," (58 FR 39132) issued on July 22, 1993. A similar change was approved by the NRC by letter dated May 2, 2002, *Seabrook Station, Unit No. 1 – Issuance of Amendment re: Relocation of Certain Engineered Safety Features Pump Values from Technical Specifications to the Technical Requirements Manual (TAC No. MB4258).*

In accordance with SR 4.5.2.h requirements, a flow balance test is required to be performed, during shutdown, prior to entry into Mode 3 if modifications are performed on the HPI or LPI subsystems that alter the subsystem flow characteristics. However, performing this test prior to entry into Mode 3 is not consistent with low temperature overpressure protection requirements for the Reactor Coolant System (RCS), such as those applicable in Modes 4 and 5 under the TS Limiting Condition for Operation 3.4.2. Accordingly, performing SR 4.5.2.h at the required 400 psig for the HPI subsystem is not appropriate.

The improved Technical Specifications, NUREG-1430, *Standard Technical Specifications - Babcock and Wilcox Plants*, Revision 2, does not contain a flow balance test. Accordingly, based on the guidance of NUREG-1430, these requirements can be relocated to the TRM, whereby the application of a lower test pressure can be evaluated pursuant to 10 CFR 50.59.

2.0 PROPOSED CHANGE

The proposed changes affect TS 3/4.5.2 and are shown on the marked-up TS page in Attachment 1.

The proposed change would remove the present TS SR 4.5.2.h requirements. SR 4.5.2.h concerns post-modification testing of the ECCS HPI and LPI subsystems and currently states:

4.5.2 Each ECCS subsystem shall be demonstrated OPERABLE:

h. By performing a flow balance test, during shutdown, following completion of modifications to the HPI or LPI subsystems that alter the subsystem flow characteristics and verifying the following flow rates:

HPI System - Single Pump

Injection Leg 1-1	$\geq$ 375 gpm at 400 psig*
Injection Leg 1-2	$\geq$ 375 gpm at 400 psig*
Injection Leg 2-1	$\geq$ 375 gpm at 400 psig*
Injection Leg 2-2	$\geq$ 375 gpm at 400 psig*

LPI System - Single Pump

Injection Leg 1	$\geq$ 2650 gpm at 100 psig**
Injection Leg 2	$\geq$ 2650 gpm at 100 psig**

The following footnotes that modify SR 4.5.2.h are also proposed for removal.

* Reactor coolant pressure at the HPI nozzle in the reactor coolant pump discharge.
** Reactor coolant pressure at the core flood nozzle on the reactor vessel.

The present SR 4.5.2.h would be replaced with:

4.5.2 Each ECCS subsystem shall be demonstrated OPERABLE:

h. By verifying each ECCS pump's developed head at the test flow point is greater than or equal to the required developed head, when tested pursuant to the requirements of Specification 4.0.5.

This is based on SR 3.5.2.4 of NUREG-1430, Revision 2.

In summary, the proposed change would remove the present requirements of Technical Specification (TS) Surveillance Requirement (SR) 4.5.2.h and replace these with a SR to verify Emergency Core Cooling System pump operability pursuant to Technical Specification 4.0.5. SR 4.5.2.h presently requires flow balance testing of the High Pressure Injection and Low Pressure Injection subsystems following system modifications that alter subsystem flow characteristics. The removed requirements of SR 4.5.2.h will be relocated to the licensee-controlled Technical Requirements Manual upon implementation of the approved amendment. Changes to the TRM are performed in accordance with the requirements of 10 CFR 50.59.

Related to this amendment application, TS Bases Section 3/4.5.2 and 3/4.5.3, "ECCS Subsystems," is being revised to reflect the relocation of the present requirements of SR 4.5.2.h and its replacement with test requirements pursuant to TS 4.0.5. The marked-up TS Bases pages are provided in Attachment 3. Since the TS Bases are not a formal part of the Technical Specifications, these pages are being provided for information only. TS Bases changes are processed under the DBNPS Technical Specifications Bases Control Program.

3.0 BACKGROUND

The proposed changes affect the Technical Specification requirements for the Emergency Core Cooling System (ECCS). The ECCS is described in the DBNPS Updated Safety Analysis Report (USAR) Section 6.3, "Emergency Core Cooling System."

The ECCS includes the Core Flooding Tanks, High Pressure Injection, and Low Pressure Injection systems. The ECCS is designed to mitigate the consequences of all breaks of the Reactor Coolant System pressure boundary which result in loss of reactor coolant at a rate in excess of the capability of the Reactor Coolant Makeup System up to and including a break equivalent in area to the double-ended rupture of the largest pipe of the Reactor Coolant System.

SR 4.5.2.h was added to the DBNPS Technical Specifications by Amendment 20 to Facility Operating License NPF-3, dated October 2, 1979. Amendment 20 was issued in response to an amendment application dated January 13, 1978. SR 4.5.2.h was added to provide additional assurance that proper ECCS flows would be maintained in the event of a loss of coolant accident. Specifically, SR 4.5.2.h provides assurance that an acceptable level of total ECCS flow to all injection points equal to or above that assumed in the ECCS-LOCA analyses is maintained.

The present requirements of SR 4.5.2.h are proposed for relocation to the DBNPS Technical Requirements Manual (TRM). The TRM contains requirements that have been relocated from the DBNPS Technical Specifications, in accordance with NRC-approved License Amendments. The TRM is incorporated by reference into the USAR in Section 1.5.5, "Davis-Besse Controlled Documents." The relocation of the present requirements of SR 4.5.2.h to the TRM will allow any future changes to be performed in accordance with 10 CFR 50.59 and other applicable regulatory requirements.

SR 4.0.5 contains requirements for inservice testing of pumps in accordance with the American Society of Mechanical Engineers (ASME) Code for Operation and Maintenance of Nuclear Power Plants (OM Code). The HPI and LPI pumps are ASME Code Class 2 components.

4.0 TECHNICAL ANALYSIS

Technical Specification (TS) Surveillance Requirement (SR) 4.5.2.h requires flow balance testing of the High Pressure Injection and Low Pressure Injection subsystems following system modifications that alter subsystem flow characteristics. The proposed change would remove the

present requirements of SR 4.5.2.h from the DBNPS Technical Specifications and relocate these to the Technical Requirements Manual (TRM). The proposed relocation would not alter the testing requirements. Any changes made to the requirements subsequent to relocation to the TRM would be performed in accordance with 10 CFR 50.59 and any other applicable regulations. The proposed relocation of the present requirements of SR 4.5.2.h is based on NUREG-1430, *Standard Technical Specifications – Babcock and Wilcox Plants*, Revision 2.

The purpose of the present SR 4.5.2.h is to require flow balance testing that will provide additional assurance following system modification that proper ECCS flows would be maintained in the event of a loss of coolant accident. 10 CFR 50, Appendix B, Criterion XI, "Test Control," requires that a test program be established to assure that all testing required to demonstrate that structures, systems, and components will perform satisfactorily in service is identified and performed in accordance with written test procedures which incorporate the requirements and acceptance limits contained in applicable design documents. An explicit requirement for post-modification testing in the Technical Specifications is unnecessary because DBNPS Procedure NG-DB-00202, "Test Control," requires that testing be performed to ensure that equipment will perform satisfactorily in service following modification or maintenance activities. Therefore, the proposed relocation will have no adverse effect on nuclear safety.

The addition of specific requirements to verify each HPI and LPI pump's developed head at the test flow point, when tested pursuant to Specification 4.0.5 requirements, is based upon SR 3.5.2.4 of the NUREG-1430 ITS. As discussed in the proposed TS Bases change, this type of testing may be accomplished by measuring the pump's developed head at only one point of the pump's characteristic curve. This verifies both that the measured performance is within an acceptable tolerance of the pump baseline performance and the test flow is greater than or equal to the performance assumed in the plant's accident analysis.

The proposed relocation and replacement of SR 4.5.2.h requirements also affects the application of SR 4.5.3, "ECCS Subsystems - $T_{avg} < 280°F$," which requires:

> The ECCS subsystems shall be demonstrated OPERABLE per the applicable Surveillance Requirements of 4.5.2.

Following the relocation of the present SR 4.5.2.h requirements, SR 4.5.3 would no longer require performance of the prescribed flow balance testing. Accordingly, flow balance testing requirements for the LPI Subsystem (Decay Heat Removal System) currently referenced in SR 4.5.3 for Mode 4 will also be added to the TRM. For the same reasons discussed above, an explicit SR for post-modification testing in the TS is unnecessary. The replacement of SR 4.5.2.h with the flow testing requirements of TS 4.0.5 will apply to SR 4.5.3 also. These are standard ASME OM Code inservice testing requirements and do not create new testing requirements. Therefore, the change in the application of SR 4.5.3 will have no adverse effect on nuclear safety.

5.0 REGULATORY SAFETY ANALYSIS

5.1 No Significant Hazards Consideration

The proposed change would remove and replace the requirements of Technical Specification Surveillance Requirement (SR) 4.5.2.h. Presently, SR 4.5.2.h requires flow balance testing of the Emergency Core Cooling System (ECCS) High Pressure Injection (HPI) and Low Pressure Injection (LPI) subsystems following system modifications that alter subsystem flow characteristics. The present requirements of SR 4.5.2.h will be relocated to the DBNPS-controlled Technical Requirements Manual upon implementation of the approved amendment. Changes to the TRM are performed in accordance with the requirements of 10 CFR 50.59. The new SR 4.5.2.h requirements will specifically require flow testing to be performed pursuant to the requirements of TS 4.0.5. These are standard ASME OM Code inservice testing requirements and do not create new testing requirements.

An evaluation has been performed to determine whether or not a significant hazards consideration is involved with the proposed amendment by focusing on the three standards set forth in 10 CFR 50.92, "Issuance of amendment," as discussed below:

1. Does the proposed change involve a significant increase in the probability or consequences of an accident previously evaluated?

   Response: No.

   The proposed surveillance requirement relocation and replacement does not alter the design, operation, or testing of any structure system or component. No previously analyzed accident scenario is changed. Initiating conditions and assumptions remain as previously analyzed. Therefore, the proposed changes do not involve a significant increase in the probability or consequences of an accident previously evaluated.

2. Does the proposed change create the possibility of a new or different kind of accident from any accident previously evaluated?

   Response: No.

   The proposed surveillance requirement relocation and replacement does not alter the design, operation, or testing of any structure system or component. No new or different accident initiators are created as a result of the proposed changes. Therefore, the proposed changes do not create the possibility of a new or different kind of accident from any previously evaluated.

3. Does the proposed change involve a significant reduction in a margin of safety?

Response: No.

The proposed surveillance requirement relocation and replacement does not reduce or adversely affect the capabilities of the ECCS. Therefore, the proposed changes do not involve a significant reduction in a margin of safety.

Based on the above, it is concluded that the proposed amendment presents no significant hazards consideration under the standards set forth in 10 CFR 50.92(c), and, accordingly, a finding of "no significant hazards consideration" is justified.

5.2 Applicable Regulatory Requirements/Criteria

10 CFR 50.36 contains requirements for content of operating license Technical Specifications. The NRC utilized 10 CFR 50.36 in the development of NUREG-1430, *Standard Technical Specifications – Babcock and Wilcox Plants,* Revision 2. The relocation of the requirements of Technical Specification (TS) Surveillance Requirement (SR) 4.5.2.h is based on the guidance of NUREG-1430, Revision 2. Relocation of the requirements of TS SR 4.5.2.h does not affect the conformance of the DBNPS Operating License Technical Specifications to the requirements of 10 CFR 50.36.

In conclusion, based on the considerations discussed above, (1) there is reasonable assurance that the health and safety of the public will not be endangered by operation in the proposed manner, (2) such activities will be conducted in compliance with the Commission's regulations, and (3) the issuance of the amendment will not be inimical to the common defense and security or to the health and safety of the public.

6.0 ENVIRONMENTAL CONSIDERATION

A review has determined that the proposed amendment would change a requirement with respect to installation or use of a facility component located within the restricted area, as defined in 10 CFR 20, or would change an inspection or surveillance requirement. However, the proposed amendment does not involve (i) a significant hazards consideration, (ii) a significant change in the types or significant increase in the amounts of any effluent that may be released offsite, or (iii) a significant increase in individual or cumulative occupational radiation exposure. Accordingly, the proposed amendment meets the eligibility criterion for categorical exclusion set forth in 10 CFR 51.22(c)(9). Therefore, pursuant to 10 CFR 51.22(b), no environmental impact

statement or environmental assessment need be prepared in connection with the proposed amendment.

7.0 REFERENCES

1. DBNPS Operating License NPF-3, Appendix A Technical Specifications through Amendment 253.

2. DBNPS Updated Safety Analysis Report through Revision 23.

3. DBNPS Technical Requirements Manual through Revision 16.

4. Letter Serial Number 413 from Lowell E. Roe, Toledo Edison, to John F. Stolz, NRC, Application for Amendment to Operating License, dated January 13, 1978.

5. Amendment 20 to Facility Operating License No. NPF-3 for the Davis-Besse Nuclear Power Station, Unit No. 1, dated October 2, 1979.

6. Code of Federal Regulations, Title 10.

7. NUREG-1430, *Standard Technical Specifications - Babcock and Wilcox Plants*, Revision 2.

8. Letter from R. D. Starkey to T. C. Feigenbaum dated May 2, 2002, "Seabrook Station, Unit No. 1 – Issuance of Amendment re: Relocation of Certain Engineered Safety Features Pump Values from Technical Specifications to the Technical Requirements Manual (TAC No. MB4258)."

9. Final Policy Statement on Technical Specifications Improvements for Nuclear Power Reactors, 58 FR 39132, dated July 22, 1993.

8.0 ATTACHMENTS

1. Proposed Mark-Up of Technical Specification Pages

2. Proposed Retyped Technical Specification Pages

3. Technical Specification Bases Pages

LAR 03-0002
Attachment 1

PROPOSED MARK-UP
OF
TECHNICAL SPECIFICATION PAGES

(7 pages follow)

INFORMATION ONLY

APPLICABILITY

SURVEILLANCE REQUIREMENTS

4.0.1 Surveillance Requirements shall be applicable during the OPERATIONAL MODES or other conditions specified for individual Limiting Conditions for Operation unless otherwise stated in an individual Surveillance Requirement.

4.0.2 Each Surveillance Requirement shall be performed within the specified time interval with a maximum allowable extension not to exceed 25 percent of the specified surveillance interval.

4.0.3 Failure to perform a Surveillance Requirement within the allowed surveillance interval, defined by Specification 4.0.2, shall constitute noncompliance with the OPERABILITY requirements for a Limiting Condition for Operation.

The time limits of the ACTION requirements are applicable at the time it is identified that a Surveillance Requirement has not been performed.

The ACTION requirements may be delayed for up to 24 hours to permit the completion of the surveillance when the allowable (equipment inoperability) outage time limits of the ACTION requirements are less than 24 hours.

Surveillance requirements do not have to be performed on inoperable equipment.

4.0.4 Entry into an OPERATIONAL MODE or other specified applicability condition shall not be made unless the Surveillance Requirement(s) associated with the Limiting Condition for Operation have been performed within the stated surveillance interval or as otherwise specified.

4.0.5 Surveillance Requirements for inservice inspection and testing of ASME Code Class 1, 2 and 3 components shall be applicable as follows:

a. Inservice inspection of ASME Code Class 1, 2 and 3 components shall be performed in accordance with Section XI of the ASME Boiler and Pressure Vessel Code and applicable Addenda as required by 10 CFR 50, Section 50.55a.

   Inservice Testing of ASME Code Class 1, 2 and 3 pumps and valves shall be performed in accordance with the ASME Code for Operation and Maintenance of Nuclear Power Plants (ASME OM Code) and applicable Addenda as required by 10 CFR 50, Section 50.55a.

APPLICABILITY

SURVEILLANCE REQUIREMENTS (Continued)

b. Surveillance intervals specified in Section XI of the ASME Boiler and Pressure Vessel Code and applicable Addenda and the ASME OM Code and applicable Addenda shall be applicable as follows in these Technical Specifications:

ASME Boiler and Pressure Vessel Code and the ASME OM Code and applicable Addenda terminology for inservice inspection and testing criteria	Required frequencies for performing inservice inspection and testing activities
Weekly	At least once per 7 days
Monthly	At least once per 31 days
Semi-quarterly	At least once per 46 days
Quarterly or every 3 months	At least once per 92 days
Semiannually or every 6 months	At least once per 184 days
Every 9 months	At least once per 276 days
Yearly or annually	At least once per 366 days
Biennially or every 2 years	At least once per 731 days

c. The provisions of Specification 4.0.2 are applicable to the above required frequencies for performing inservice inspection and testing activities.

d. Performance of the above inservice inspection and testing activities shall be in addition to other specified Surveillance Requirements.

e. Nothing in the ASME Boiler and Pressure Vessel Code or the ASME OM Code shall be construed to supersede the requirements of any Technical Specification.

INFORMATION ONLY

ECCS SUBSYSTEMS - $T_{avg} \geq 280°F$

LIMITING CONDITION FOR OPERATION

3.5.2 Two independent ECCS subsystems shall be OPERABLE with each subsystem comprised of:

a. One OPERABLE high pressure injection (HPI) pump,

b. One OPERABLE low pressure injection (LPI) pump,

c. One OPERABLE decay heat cooler, and

d. An OPERABLE flow path capable of taking suction from the borated water storage tank (BWST) on a safety injection signal and manually transferring suction to the containment sump during the recirculation phase of operation.

APPLICABILITY: MODES 1, 2 and 3.

ACTION:

a. With one HPI train inoperable, restore the inoperable HPI train to OPERABLE status within 72 hours or be in HOT SHUTDOWN within the next 12 hours.

b. With one LPI train or its associated decay heat cooler inoperable, restore the inoperable equipment to OPERABLE status within 7 days or be in HOT SHUTDOWN within the next 12 hours.

c. In the event the ECCS is actuated and injects water into the Reactor Coolant System, a Special Report shall be prepared and submitted to the Commission pursuant to Specification 6.9.2 within 90 days describing the circumstances of the actuation and the total accumulated actuation cycles to date.

SURVEILLANCE REQUIREMENTS

4.5.2 Each ECCS subsystem shall be demonstrated OPERABLE:

a. At least once per 31 days by verifying that each valve (manual, power operated or automatic) in the flow path that is not locked, sealed or otherwise secured in position, is in its correct position.

SURVEILLANCE REQUIREMENTS (Continued)

b. At least once each REFUELING INTERVAL, or prior to operation after ECCS piping has been drained by verifying that the ECCS piping is full of water by venting the ECCS pump casings and discharge piping high points.

c. By a visual inspection which verifies that no loose debris (rags, trash, clothing, etc.) is present in the containment which could be transported to the containment emergency sump and cause restriction of the pump suction during LOCA conditions. This visual inspection shall be performed:

1. For all accessible areas of the containment prior to establishing CONTAINMENT INTEGRITY, and

2. For all areas of containment affected by an entry, at least once daily while work is ongoing and again during the final exit after completion of work (containment closeout) when CONTAINMENT INTEGRITY is established.

d. At least once each REFUELING INTERVAL by:

1. Verifying that the interlocks:

a) Close DH-11 and DH-12 and deenergize the pressurizer heaters, if either DH-11 or DH-12 is open and a simulated reactor coolant system pressure which is greater than the Allowable Value (<328 psig) is applied. The interlock to close DH-11 and/or DH-12 is not required if the valve is closed and 480 V AC power is disconnected from its motor operators.

b) Prevent the opening of DH-11 and DH-12 when a simulated or actual reactor coolant system pressure which is greater than the Allowable Value (<328 psig) is applied.

2. a) A visual inspection of the containment emergency sump which verifies that the subsystem suction inlets are not restricted by debris and that the sump components (trash racks, screens, etc.) show no evidence of structural distress or corrosion.

b) Verifying that on a Borated Water Storage Tank (BWST) Low-Low Level interlock trip, with the motor operators for the BWST outlet isolation valves and the containment emergency sump recirculation valves energized, the BWST Outlet Valve HV-DH7A (HV-DH7B) automatically close in ≤75 seconds after the operator manually pushes the control switch to open the Containment Emergency Sump Valve HV-DH9A (HV-DH9B) which should be verified to open in ≤75 seconds.

3. Deleted

SURVEILLANCE REQUIREMENTS (Continued)

4. Verifying that a minimum of 290 cubic feet of trisodium phosphate dodecahydrate (TSP) is contained within the TSP storage baskets.

5. Deleted

6. Deleted

e. At least once each REFUELING INTERVAL, by

1. Verifying that each automatic valve in the flow path actuates to its correct position on a safety injection test signal.

2. Verifying that each HPI and LPI pump starts automatically upon receipt of a SFAS test signal.

f. By performing a vacuum leakage rate test of the watertight enclosure for valves DH-11 and DH-12 that assures the motor operators on valves DH-11 and DH-12 will not be flooded for at least 7 days following a LOCA:

1. At least once per 18 months.

2. After each opening of the watertight enclosure.

3. After any maintenance on or modification to the watertight enclosure which could affect its integrity.

The inspection port on the watertight enclosure may be opened without requiring performance of the vacuum leakage rate test, to perform inspections. After use, the inspection port must be verified as closed in its correct position. Provisions of TS 3.0.3 are not applicable during these inspections.

g. By verifying the correct position of each mechanical position stop for valves DH-14A and DH-14B.

1. Within 4 hours following completion of the opening of the valves to their mechanical position stop or following completion of maintenance on the valve when the LPI system is required to be OPERABLE.

2. At least once each REFUELING INTERVAL.

SURVEILLANCE REQUIREMENTS (Continued)

h. By verifying each ECCS pump's developed head at the test flow point is greater than or equal to the required developed head, when tested pursuant to the requirements of Specification 4.0.5. ~~By performing a flow balance test, during shutdown, following completion of modifications to the HPI or LPI subsystems that alter the subsystem flow characteristics and verifying the following flow rates:~~

~~HPI System – Single Pump~~

~~Injection Leg 1-1 ≥ 375 gpm at 400 psig*~~
~~Injection Leg 1-2 ≥ 375 gpm at 400 psig*~~

~~Injection Leg 2-1 ≥ 375 gpm at 400 psig*~~
~~Injection Leg 2-2 ≥ 375 gpm at 400 psig*~~

~~LPI System – Single Pump~~

~~Injection Leg 1 ≥ 2650 gpm at 100 psig**~~
~~Injection Leg 2 ≥ 2650 gpm at 100 psig**~~

~~* Reactor coolant pressure at the HPI nozzle in the reactor coolant pump discharge.~~
~~** Reactor coolant pressure at the core flood nozzle on the reactor vessel.~~

EMERGENCY CORE COOLING SYSTEMS

ECCS SUBSYSTEMS - T_{avg} < 280°F

INFORMATION ONLY

LIMITING CONDITION FOR OPERATION

3.5.3 As a minimum, one ECCS subsystem comprised of the following shall be OPERABLE:

a. One OPERABLE decay heat (DH) pump,

b. One OPERABLE DH cooler, and

c. An OPERABLE flow path capable of taking suction from the borated water storage tank (BWST) and manually transferring suction to the containment emergency sump during the recirculation phase of operation.

APPLICABILITY: MODE 4.

ACTION:

a. With no ECCS subsystem OPERABLE because of the inoperability of the DH pump, the DH cooler or the flow path from the BWST, restore at least one ECCS subsystem to OPERABLE status within one hour or maintain the Reactor Coolant System Tavg less than 280°F by use of alternate heat removal methods.

b. In the event the ECCS is actuated and injects water into the reactor coolant system, a Special Report shall be prepared and submitted to the Commission pursuant to Specification 6.9.2 within 90 days describing the circumstances of the actuation and the total accumulated actuation cycles to date.

SURVEILLANCE REQUIREMENTS

4.5.3 The ECCS subsystems shall be demonstrated OPERABLE per the applicable Surveillance Requirements of 4.5.2.

LAR 03-0002
Attachment 2

PROPOSED RETYPED
TECHNICAL SPECIFICATION PAGES

(1 page follows)

h. By verifying each ECCS pump's developed head at the test flow point is greater than or equal to the required developed head, when tested pursuant to the requirements of Specification 4.0.5.

LAR 03-0002
Attachment 3

TECHNICAL SPECIFICATION BASES PAGES

(4 pages follow)

Note: The Bases pages are provided for information only.

3/4.5.1 CORE FLOODING TANKS

The OPERABILITY of each core flooding tank ensures that a sufficient volume of borated water will be immediately forced into the reactor vessel in the event the RCS pressure falls below the pressure of the tanks. This initial surge of water into the vessel provides the initial cooling mechanism during large RCS pipe ruptures.

The limits on volume, boron concentration and pressure ensure that the assumptions used for core flooding tank injection in the safety analysis are met.

The tank power operated isolation valves are considered to be "operating bypasses" in the context of IEEE Std. 279-1971, which requires that bypasses of a protective function be removed automatically whenever permissive conditions are not met. In addition, as these tank isolation valves fail to meet single failure criteria, removal of power to the valves is required.

The one hour limit for operation with a core flooding tank (CFT) inoperable for reasons other than boron concentration not within limits minimizes the time the plant is exposed to a possible LOCA event occurring with failure of a CFT, which may result in unacceptable peak cladding temperatures.

With boron concentration for one CFT not within limits, the condition must be corrected within 72 hours. The 72 hour limit was developed considering that the effects of reduced boron concentration on core subcriticality during reflood are minor. Boiling of the ECCS water in the core during reflood concentrates the boron in the saturated liquid that remains in the core. In addition, the volume of the CFTs is still available for injection. Since the boron requirements are based on the average boron concentration of the total volume of both CFTs, the consequences are less severe than they would be if the contents of a CFT were not available for injection.

The completion times to bring the plant to a MODE in which the Limiting Condition for Operation (LCO) does not apply are reasonable based on operating experience. The completion times allow plant conditions to be changed in an orderly manner and without challenging plant systems.

CFT boron concentration sampling within 6 hours after an 80 gallon volume increase will identify whether inleakage from the RCS has caused a reduction in boron concentration to below the required limit. It is not necessary to verify boron concentration if the added water inventory is from the borated water storage tank (BWST), because the water contained in the BWST is within CFT boron concentration requirements.

3/4.5.2 and 3/4.5.3 ECCS SUBSYSTEMS

The operability of two independent ECCS subsystems with RCS average temperature $\geq 280°F$ ensures that sufficient emergency core cooling capability will be available in the event of a LOCA assuming the loss of one subsystem through any single failure consideration. Each ECCS subsystem consists of one High Pressure Injection (HPI) train, one Low Pressure Injection (LPI) train (including the associated decay heat cooler), and the necessary piping, valves, instrumentation and controls to provide the required flowpaths from the Borated Water Storage

Tank (BWST) or the Containment Emergency Sump to the reactor vessel. Either subsystem operating in conjunction with the core flooding tanks is capable of supplying sufficient core cooling to maintain the peak cladding temperatures within acceptable limits for all postulated break sizes ranging from the double ended break of the largest RCS cold leg pipe downward. With RCS average temperature ≥ 280°F, the Limiting Condition for Operation (LCO) requires the OPERABILITY of a number of independent trains, the inoperability of one component in a train does not necessarily render the ECCS incapable of performing its function. Neither does the inoperability of two different components, each in a different train, necessarily result in a loss of function for the ECCS. The intent of this LCO is to maintain a combination of equipment such that 100% of the safety injection flow equivalent to 100% of a single subsystem remains available. This allows increased flexibility in plant operations under circumstances when components in opposite subsystems are inoperable.

With one or more components inoperable such that 100% of the flow equivalent to a single OPERABLE ECCS subsystem is not available, the facility is in a condition outside the accident analyses. Therefore, LCO 3.0.3 must be immediately entered.

In addition, each ECCS subsystem provides long term core cooling capability in the recirculation mode during the accident recovery period.

With the RCS temperature below 280°F, one OPERABLE ECCS subsystem is acceptable without single failure consideration on the basis of the stable reactivity condition of the reactor and the limited core cooling requirements.

The Surveillance Requirements provided to ensure OPERABILITY of each component ensures that, at a minimum, the assumptions used in the safety analyses are met and that subsystem OPERABILITY is maintained.

The function of the trisodium phosphate dodecahydrate (TSP) contained in baskets located in the containment normal sump or on the 565' elevation of containment adjacent to the normal sump, is to neutralize the acidity of the post-LOCA borated water mixture during containment emergency sump recirculation. The borated water storage tank (BWST) borated water has a nominal pH value of approximately 5. Raising the borated water mixture to a pH value of 7 will ensure that chloride stress corrosion does not occur in austenitic stainless steels in the event that chloride levels increase as a result of contamination on the surfaces of the reactor containment building. Also, a pH of 7 is assumed for the containment emergency sump for iodine retention and removal post-LOCA by the containment spray system.

The Surveillance Requirement (SR) associated with TSP ensures that the minimum required volume of TSP is stored in the baskets. The minimum required volume of TSP is the volume that will achieve a post-LOCA borated water mixture pH of $\geq$ 7.0, conservatively considering the maximum possible sump water volume and the maximum possible boron concentration. The amount of TSP required is based on the mass of TSP needed to achieve the required pH. However, a required volume is verified by the SR, rather than the mass, since it is not feasible to weigh the entire amount of TSP in containment. The minimum required volume is based on the manufactured density of TSP (53 lb/ft^3). Since TSP can have a tendency to agglomerate from high humidity in the containment, the density may increase and the volume decrease during normal plant operation, however, solubility characteristics are not expected to change. Therefore, considering possible agglomeration and increase in density, verifying the minimum volume of TSP in containment is conservative with respect to ensuring the capability to achieve the minimum required pH. The minimum required volume of TSP to meet all analytical requirements is 250 ft^3. The surveillance requirement of 290 ft^3 includes 40 ft^3 of spare TSP as margin. Total basket capacity is 325 ft^3.

Decay Heat Removal System valves DH-11 and DH-12 are located in an area that would be flooded following a LOCA. These valves are located in a watertight enclosure to ensure their operability up to seven days following a LOCA. Surveillance Requirements are provided to verify the acceptable leak tightness of this enclosure. An inspection port is located on this watertight enclosure, which is typically used for performing inspections inside the enclosure. During the vacuum leakage rate test, the inspection port is in a closed position and subject to the test. This inspection port may be subsequently opened for use in viewing inside the enclosure. Opening this inspection port will not require performance of the vacuum leakage rate test because of the design of the closure fitting, which will preclude leakage under LOCA conditions, when properly installed. Proper installation includes independent verification.

The Ssurveillance requirements for throttle valve position stops ~~and flow balance testing~~ provides assurance that proper ECCS flows will be maintained in the event of a LOCA. Maintenance of proper flow resistance and pressure drop in the piping system to each injection point is necessary to: (1) prevent total pump flow from exceeding runout conditions when the system is in its minimum resistance configuration, (2) provide the proper flow split between injection points in accordance with the assumptions used in the ECCS-LOCA analyses, and (3) provide an acceptable level of total ECCS flow to all injection points equal to or above that assumed in the ECCS-LOCA analyses.

Periodic surveillance testing of ECCS pumps to detect gross degradation caused by impeller structural damage or other hydraulic component problems is required by the ASME OM Code. This type of testing may be accomplished by measuring the pump's developed head at only one point of the pump's characteristic curve. This verifies both that the measured performance is within an acceptable tolerance of the pump baseline performance and that the performance at the test flow is greater than or equal to the performance assumed in the plant accident analysis. Surveillance Requirements are specified in the Inservice Testing Program, which encompasses the ASME OM Code. The ASME OM Code and Technical Specification 4.0.5 provide the activities and frequencies necessary to satisfy the requirements.

Containment Emergency Sump Recirculation Valves DH-9A and DH-9B are de-energized during MODES 1, 2, 3 and 4 to preclude postulated inadvertent opening of the valves in the event of a Control Room fire, which could result in draining the Borated Water Storage Tank to the Containment Emergency Sump and the loss of this water source for normal plant shutdown. Re-energization of DH-9A and DH-9B is permitted on an intermittent basis during MODES 1, 2, 3 and 4 under administrative controls. Station procedures identify the precautions which must be taken when re-energizing these valves under such controls.

Borated Water Storage Tank (BWST) outlet isolation valves DH-7A and DH-7B are de-energized during MODES 1, 2, 3, and 4 to preclude postulated inadvertent closure of the valves in the event of a fire, which could result in a loss of the availability of the BWST. Re-energization of valves DH-7A and DH-7B is permitted on an intermittent basis during MODES 1, 2, 3, and 4 under administrative controls. Station procedures identify the precautions which must be taken when re-energizing these valves under such controls.

The Decay Heat Isolation Valve and Pressurizer Heater Interlock setpoint is based on preventing over-pressurization of the Decay Heat Removal System normal suction line piping. The value stated is the RCS pressure at the sensing instrument's tap. It has been adjusted to reflect the elevation difference between the sensor's location and the pipe of concern.

INFORMATION ONLY

Docket Number 50-346
License Number NPF-3
Serial Number 2949
Enclosure 2

COMMITMENT LIST

THE FOLLOWING LIST IDENTIFIES THOSE ACTIONS COMMITTED TO BY THE DAVIS-BESSE NUCLEAR POWER STATION (DBNPS) IN THIS DOCUMENT. ANY OTHER ACTIONS DISCUSSED IN THE SUBMITTAL REPRESENT INTENDED OR PLANNED ACTIONS BY THE DBNPS. THEY ARE DESCRIBED ONLY FOR INFORMATION AND ARE NOT REGULATORY COMMITMENTS. PLEASE NOTIFY THE MANAGER – REGULATORY AFFAIRS (419-321-8450) AT THE DBNPS OF ANY QUESTIONS REGARDING THIS DOCUMENT OR ANY ASSOCIATED REGULATORY COMMITMENTS.

COMMITMENTS	DUE DATE
1. Requirements of Technical Specification Surveillance Requirement 4.5.2.h, including flow balance testing requirements for the LPI subsystem (Decay Heat Removal System) currently referenced in SR 4.5.3 for Mode 4, will be relocated to the DBNPS Technical Requirements Manual.	1. Upon implementation of the approved amendment.